

REMARKS

In the outstanding Office Action, claims 21-22 were rejected under 35 U.S.C. §101 as being directed to non-statutory subject matter. Claims 21 and 23 were rejected under 35 U.S.C. §102(b) over SATO (U.S. Patent No. 5,956,328). Claims 22 and 24-32 were rejected under 35 U.S.C. §103(a) over SATO, in view of Applicant's disclosed prior art and OMORI (U.S. Patent No. 6,239,666).

Upon entry of the present amendment, claims 21- 24 will have been cancelled without prejudice to or disclaimer of the subject matter recited therein. Claims 33-35 will have been added for consideration. The cancellation of claims 21-24 and the addition of claims 33-35 should not be considered an indication of Applicant's acquiescence as to the propriety of any outstanding rejection. Rather, claims 21-24 will have been cancelled and claims 33-35 will have been added in order to advance prosecution of the present application and obtain early allowance of claims therein. The cancellation of claims 21-24 renders moot the rejection of claims 21-22 under 35 U.S.C. §101, the rejection of claims 21 and 23 under 35 U.S.C. §102(b) over SATO, and the rejection of claims 22 and 24 under 35 U.S.C. §103(a) over SATO, in view of Applicant's disclosed prior art and OMORI (U.S. Patent No. 6,239,666).

Independent claims 25, 26, 28 and 32 are allowable over SATO in view of Applicant's disclosed prior art and OMORI. In this regard, each of these independent claims is generally directed to features relating to amplitude adjustment after sign inversion to obtain a first phase offset, and before phase offsetting by a second phase offset smaller than 90°.

In contrast to the combinations recited in claims 25, 26, 28 and 32, Applicant's "Background of the Invention" section describes that amplitude adjustment is conventionally performed before phase control, and this feature is shown in Figure 4B of Applicant's disclosed

prior art. However, according to the rejections of claims 25, 26, 28 and 32, Applicant's disclosed prior art would somehow lead one of ordinary skill in the art to adjust amplitude after sign inversion to obtain a first phase offset, though Applicant's disclosed prior art teaches specifically that amplitude adjustment is conventionally performed before phase control.

Also in contrast to the combinations recited in claims 25, 26, 28 and 32, OMORI discloses, at column 2, lines 44-55, that a sign of a signal "is inverted without changing the value" of the quadrature component when the value Θ shown in FIG. 4C of OMORI changes within either of two specified ranges. However, as should be clear from OMORI, the sign inversion is not performed to obtain a first phase offset of a multiple of 90° in either of the specified ranges.

Further, according to OMORI, any resultant phase offsetting occurs only before amplitude adjustment. However, according to the rejections of claims 25, 26, 28 and 32, OMORI would somehow lead one of ordinary skill in the art to phase offsetting by a second phase offset smaller than 90° after amplitude adjustment.

That is, the rejection of claims 25, 26, 28 and 32 is based on a proposal in the Office Action to place an amplitude adjuster between two stages of phase offsetting, though no such teaching is found anywhere in Applicant's disclosed prior art or the documents applied in the Office Action.

As previously explained during prosecution, it would not be obvious to place an amplitude multiplier between phase shifter 201 in SATO and phase shifter 202 in SATO. Rather, as described in Applicant's "Background of the Invention" section, amplitude adjustment is conventionally performed before phase control, and this feature is shown in Figure 4B of Applicant's disclosed prior art. Accordingly, even the modification of SATO with the Admitted

Prior Art shown in FIG. 4B would result in the amplitude adjustment circuit being placed before phase shifter 201 and phase shifter 202 in SATO, and not between phase shifter 201 and phase shifter 202 in SATO.

Further, there is no proper explanation for modifying SATO with the teachings of OMORI, let alone in the manner proposed in the Office Action. Rather, SATO and OMORI are directed to different and apparently incompatible proposals. That is, SATO is directed to processing both I and Q components of a signal, whereas OMORI is directed to intentionally reducing processing when possible and not changing a Q component when changing an I component.

Thus, it would not be obvious to modify SATO in any manner such that the combination of features recited in the pending independent claims would result, and the Office Action has not established a proper basis for the rejection of independent claims 25, 26, 28 and 32 over SATO in view of Applicant's disclosed prior art and OMORI.

Additionally, each of independent claim 28 and new independent claim 33 recite features of controlling the second phase offsetting based on a signal from a remote source (in claim 28 "a message included in a reception signal from a receiver that receives communication signals" from the claimed CDMA transmission apparatus). In contrast, SATO discloses, at col. 5, lines 37-52 (including Table II), that the second phase shifter 202 performs the second phase shifting operation according to the even-odd discrimination clock signal CLK3, which is not a "control signal from a remote source" as recited in claim 33 or the related features recited in claim 28. Further, it would not be obvious to modify SATO to control the second phase shifting based on a control signal from a remote source, as such a modification to SATO would render moot

substantially all of the teachings of SATO relating to controlling the second phase shifting using CLK3.

At least for each and all of the reasons set forth above, each of the independent claims now pending is allowable over SATO, Applicant's disclosed prior art, and/or OMORI, whether considered alone or in any proper combination. Further, each of the pending dependent claims is allowable at least for depending, directly or indirectly, from an allowable independent claim, as well as for additional reasons related to their own recitations.

For example, new dependent claims 34 and 35 further define the invention to which claim 33 is directed. That is, claim 34 recites "at least one switch used to provide the sign-inverted signed binary data the phase offset smaller than 90° based on the control signal from the remote source". In contrast, it would not be obvious to modify the cited embodiments of SATO to use any control signal from a remote source, let alone to include at least one switch used to provide the sign-inverted signed binary data the phase offset smaller than 90° based on the control signal from the remote source.

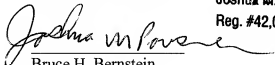
Further, claim 35 recites "when a phase and an amplitude of the signed binary data are adjusted, the sign of the signed binary data is inverted before the amplitude of the sign inverted binary data is adjusted". In contrast, and as explained above, it would not be obvious to modify SATO to include such a feature, particularly insofar as it was conventional in the field of the present application to perform phase control after adjusting the signal amplitude. Accordingly, dependent claims 34-35 are allowable over SATO, Applicant's disclosed prior art, and/or OMORI, whether considered alone or in any proper combination.

Accordingly, at least for each and all of the reasons set forth above, reconsideration and withdrawal of each of the outstanding rejections is respectfully requested.

Should there be any questions, any representative of the U.S. Patent and Trademark Office is invited to contact the undersigned at the telephone number provided below.

Respectfully submitted,
Kazuyuki OHHASHI

Joshua M. Povsner
Reg. #42,086


Bruce H. Bernstein
Reg. No. 29,027

June 11, 2007
GREENBLUM & BERNSTEIN, P.L.C.
1950 Roland Clarke Place
Reston, VA 20191
(703) 716-1191